

REMARKS

Claims 1-7 are pending in this application. Claim 7 is cancelled without prejudice. Applicants reserve the right to file a divisional application to the cancelled claim. Claims 1 and 4 have been amended as above to clarify or specify the mode of applying hot air current to the starch grain material. These amendments find their support from, *inter alia*, the description at page 8, lines 3-19 in the original detailed disclosure as well as from the illustration in Fig. 1.

35 U.S.C. §112 Rejections

Claims 1-6 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the present invention. The absence of a preamble phrase has been objected to for the pending claims. The phrase "comprising" has been added to independent claim 1 to overcome the objection. Independent claim 4 originally and presently contains the phrase "comprising". Claims 1-6 stand rejected under 35 U.S.C. §112 for indefiniteness for non-recitation of the process steps in an active tense, e.g., "subjecting" rather than "subjected". Claims 1 and 4 have been amended to overcome the rejections. Claims 1 and 4 stand rejected under 35 U.S.C. §112 for indefiniteness because the scope of the phrase "storable at room temperature" is unknown. The Examiner states that it is not clear how long or at what conditions the starch grain material is stored. Applicants have amended claims 1 and 4 to articulate the room temperature defined by the present invention.

35 U.S.C. §102 Rejections

Claims 1-6 stand rejected under 35 U.S.C. §102(b) as being anticipated by JP 09-294579 to Shimotori et al. (hereinafter the '579 patent). The Applicants trust that the presently filed amendments render the subject matter distinct over the '579 patent, thus overcoming the anticipation rejection.

More particularly, the presently claimed method of processing starch grain material as currently defined is unique in that the microwave irradiating step is effected while the material is being conveyed on a belt formed of a mesh material while keeping the temperature surrounding the material at 50 to 120°C by means of a hot air current fed through the mesh belt.

Thus, the processing method of the presently claimed invention achieves uniform moisture distribution over the entire processed material from its surface layer to the inner side thereof, which is made possible by rapid (or positively accelerated) dissipation of excess moisture from the surface layer of the starch grain material on the conveying surface of the mesh-type belt conveyer. This provides such advantages as promoted alcohol generation during the subsequent fermenting step, effective restriction of scorching of the material during the microwave irradiating step, and overall efficiency of the microwave irradiation. Consequently, the utilization factor of the starch grain material can be improved.

The '579 patent, as pointed out by the Examiner, discloses a method of processing starch grain material including a microwave irradiating step for irradiating microwave to the material and a roasting step for roasting the material. The '579 patent specifies that its roasting step involves processing the material with hot air current as well as the processing temperature range from 70 to 400°C, particularly preferably from 100 to 300°C proposed for the roasting step. The '579 patent states that the microwave irradiating step and the roasting step can be effected at one time.

However, the disclosed embodiment of the '579 patent is limited to the sole case of effecting the roasting step after the microwave irradiating step. For this reason, the invention of the '579 patent is not concerned about the possibility of scorching of the material during the microwave irradiating step, which would occur in the case of simultaneous implementation of the two steps. This is why the temperature proposed for the roasting step has a relatively high temperature of about 250°C.

In other words, the temperature range (70 to 400°C) proposed by the '579 patent for its roasting step is intended for use only for the roasting step, after the microwave irradiating step has already occurred, without any regard to the problem of material scorching during the microwave irradiating step. The material scorching is a serious problem which would occur in the case of simultaneous implementation of the two steps of the '579 patent.

Hence, unlike the presently claimed invention, the invention of the '579 patent does not provide or disclose at all any solution to the problem of avoiding material scorching during the microwave irradiating step during simultaneous application of hot air current to the material. This is accomplished via the presently claimed invention by maintaining the

temperature of the material at 50 to 120°C by feeding hot air through the mesh material of the belt.

Further, the '579 patent lacks disclosure relating to the essential concept of the presently claimed invention. Specifically, the presently claimed invention involves simultaneous application of hot air current to material during a microwave irradiating step at a 50 to 120°C temperature range in the hot air atmosphere from hot air current fed through the mesh belt conveying the material. This process enables the rapid dissipation of moisture from the surface layer of the material.

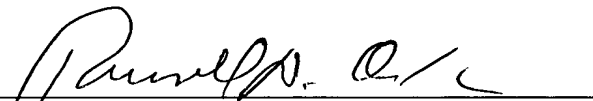
For the foregoing reasons detailed above, Applicants trust that the presently claimed invention is distinguished over the cited reference.

CONCLUSION

Based on the foregoing amendments and remarks, reconsideration of the rejections and allowance of pending claims 1-6 are respectfully requested.

Respectfully submitted,

WEBB ZIESENHEIM LOGSDON
ORKIN & HANSON, P.C.

By 

Russell D. Orkin
Registration No. 25,363
Attorney for Applicants
700 Koppers Building
436 Seventh Avenue
Pittsburgh, Pennsylvania 15219-1818
Telephone: 412-471-8815
Facsimile: 412-471-4094